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DATA HIGHLIGHT
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Does Disability Affect Receipt of Preventive Care Services among Older Medicare Beneficiaries?

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Introduction

Preventive care services (such as influenza and pneumococcal vaccinations) and cancer screenings (such as routine mammography) are important for mitigating illnesses and disease progression.[1, 2, 3] In 2013, 48,031 persons ages 65 and older died from influenza and pneumonia in the United States.[4] In the same year, 22,870 women ages 65 and older died from breast cancer.[5] These data underscore the importance of broad access to preventive pneumonia and influenza vaccinations,[1, 3] as well as screenings to detect cancer in its earliest, most treatable stage.[6]

Disability may impede access to preventive care. Adults with disabilities – especially those who have substantial mobility impairments or need help with routine and personal care needs – have been found to be less likely to receive mammograms, Papanicolaou (Pap) tests, and pneumococcal vaccinations compared to adults with no disability.[7] Physical accessibility to exam rooms and diagnostic equipment, particularly for adults with disabilities who use mobility devices, may contribute to restricted access to preventive care.[8, 9]

Although previous studies have examined receipt of preventive services across a range of disability types,[10, 11] none have so far attempted to align disability types with the 2011 Department of Health and Human Services (HHS) guidance regarding disability status data collection standards.[12] This new guidance, specifying six disability types, brings clarity and uniformity to the definition of disability. According to data collected consistent with the HHS guidance, 36.4 percent of Americans ages 65 and older had a hearing, visual, cognitive, ambulatory, self-care, or independent living disability in 2013.[13] We present data from the 2013 Medicare Current Beneficiary Survey (MCBS), an in-person,

Key Findings:

- Medicare beneficiaries reporting any type of disability were less likely than beneficiaries reporting no disability to receive cancer screenings and more likely to receive routine preventive care.
- Among Medicare beneficiaries ages 65 and older, females reporting any type of disability were less likely to receive mammography screening compared to those reporting no disability.
- Compared to beneficiaries reporting no disability, receipt of pneumococcal vaccination was consistently higher among beneficiaries ages 65 and older reporting any type of disability.

Data Source: 2013 Medicare Current Beneficiary Survey.

nationally representative, longitudinal survey of Medicare beneficiaries sponsored by the Centers for Medicare & Medicaid Services (CMS). Using measures available in the MCBS that are similar to the HHS disability status data collection implementation guidance (see Table 1 for a comparison), this study examined differences in self-reported receipt of preventive care by type of disability for community-dwelling Medicare beneficiaries ages 65 and older.[i]

Table 1. Comparison of MCBS disability measures and HHS implementation guidance

	2013 MCBS	2011 HHS Implementation Guidance
Hearing	Beneficiary reported a lot of trouble hearing or reported being deaf.	Beneficiary reported being deaf or having serious difficulty hearing.
Visual	Beneficiary reported a lot of trouble seeing or reported being blind.	Beneficiary reported being blind or having serious difficulty seeing, even when wearing glasses
Cognitive	Beneficiary reported having trouble concentrating or keeping his/her mind on what s/he is doing, problems making decisions to the point that it interferes with daily activities, or experiencing memory loss such that it interferes with daily activities.	Beneficiary reported having serious difficulty concentrating, remembering, or making decisions because of a physical, mental, or emotional condition.
Ambulatory	Beneficiary reported that, because of a health or physical problem, s/he finds it difficult or is unable to walk a quarter-mile; an inability to stoop, crouch, or kneel; or a lot of difficulty stooping, crouching, or kneeling.	Beneficiary reported serious difficulty walking or climbing stairs.
Self-Care	Beneficiary reported that, because of a health or physical problem, s/he finds it difficult or is unable to bathe, shower, dress, eat, get in or out of bed or chairs, or use the toilet.	Beneficiary reported difficulty dressing or bathing.
Independent Living	Beneficiary reported that, because of a health or physical problem, s/he finds it difficult or is unable to shop for personal items, prepare meals, manage money, use the telephone, or do housework.	Beneficiary reported having difficulty doing errands alone, such as visiting a doctor's office or shopping, because of a physical, mental, or emotional condition.

[i] The MCBS collects data from community-dwelling and institutionalized beneficiaries. Because barriers to preventive care are different for the two populations, this analysis is restricted to community-dwelling beneficiaries.

Consistent with other Federal statistical agencies such as the U.S. Census Bureau,[14] we have recoded data so that beneficiaries can report multiple disabilities. Since Medicare eligibility for persons under age 65 is determined by disability status, we limited our findings to only beneficiaries ages 65 and older. For convenience of description, we grouped together mammography screening, Pap test, and prostate exam as "cancer screenings," and we grouped together influenza vaccination, pneumococcal vaccination, and blood pressure screening as "routine preventive care."

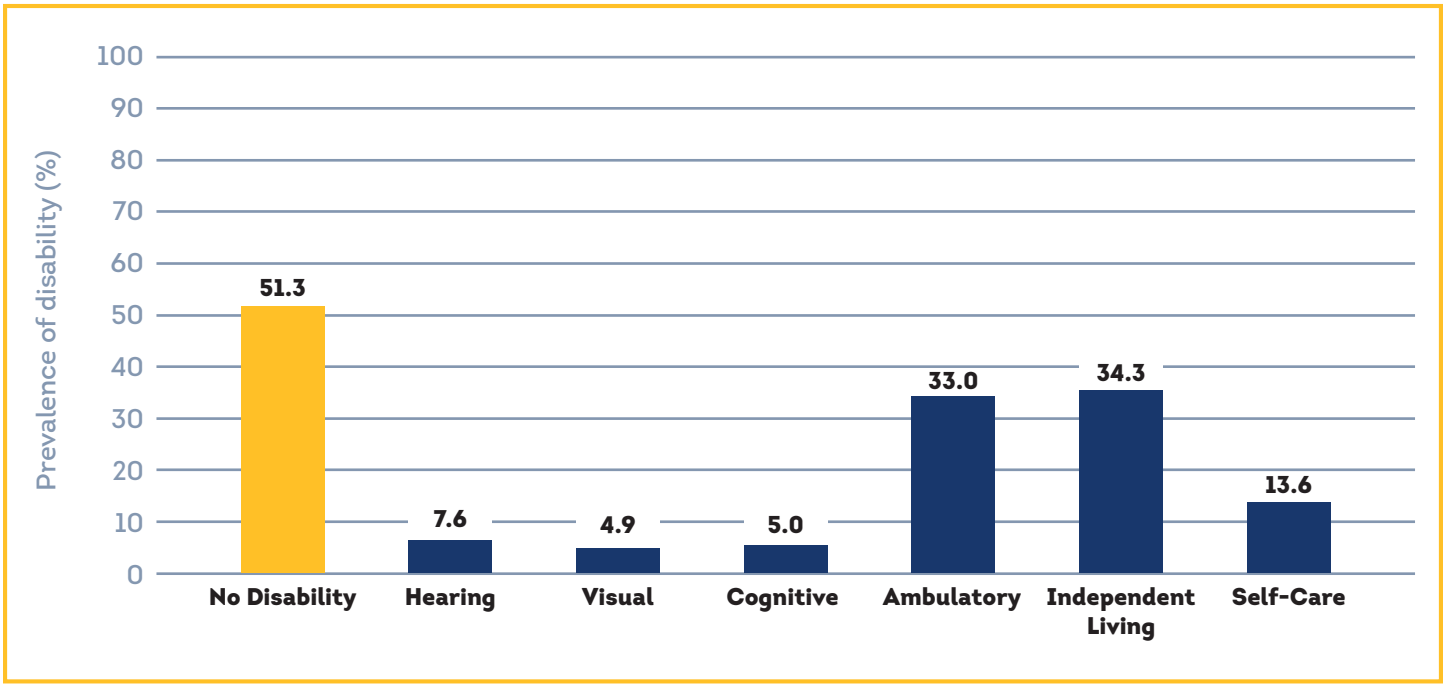
The examined preventive service categories are listed in Table 2. All reported results are statistically significant at the $p < 0.05$ level.

Table 2. MCBS self-reported preventive service measures, 2013

Cancer Screenings	Mammography screening or breast x-ray in the last four years (females only)
	Papanicolaou (Pap) test in the last four years (females only)
	Digital rectal prostate (prostate) exam in the last four years (males only)
Routine Preventive Care	Blood pressure screening by a doctor or other health professional in the last year
	Influenza vaccination between July 1, 2012 and the fall 2012 interview date
	Pneumococcal vaccination ever

Results

Figure 1. Percent of community-dwelling Medicare beneficiaries ages 65 and older reporting a disability, by type of disability, 2013



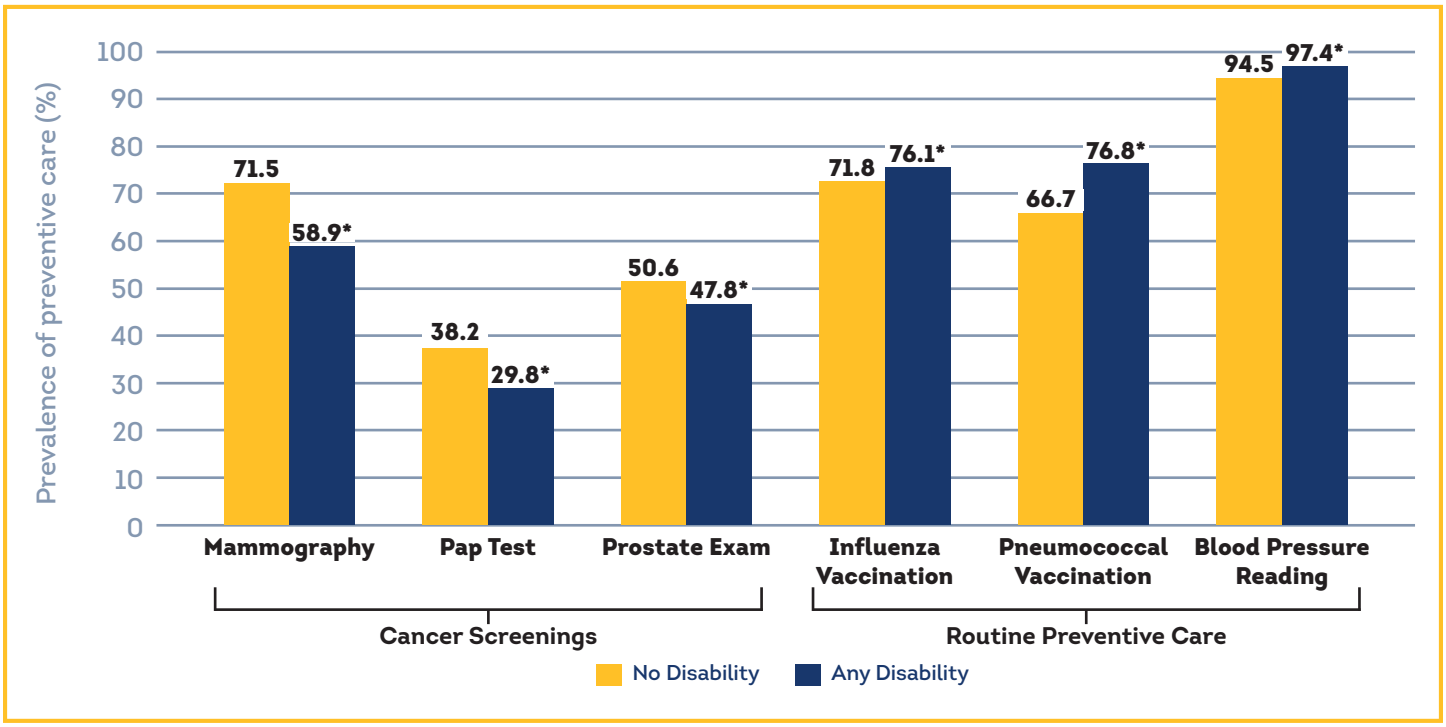
SOURCE: Medicare Current Beneficiary Survey, 2013 Access to Care

NOTE: Survey data collected from community-dwelling beneficiaries ever enrolled in Medicare in 2013. Categories may not add to 100 percent because beneficiaries can report multiple disabilities.

Figure 1 shows the disability status of community-dwelling Medicare beneficiaries ages 65 and older in 2013. Over half of beneficiaries (51.3%) reported experiencing no disability. The most frequent disabilities reported among this population were independent living disabilities (34.3%) and ambulatory disabilities (33.0%). Self-care disabilities were the next most frequently reported category (13.6%), followed by hearing (7.6%), cognitive (5.0%), and visual (4.9%) disabilities. Appendix Table A1 describes the population of beneficiaries with and without each disability.

Appendix Table A2 describes the demographic and socio-economic characteristics of community-dwelling beneficiaries ages 65 and older in 2013, by type of disability. For example, about three-quarters (72.0%) of beneficiaries reporting no disability were ages 65-74, while significantly fewer beneficiaries reporting a disability were in this age group. About one quarter (26.2%) of beneficiaries reporting no disability had incomes of less than $25,000, while significantly more beneficiaries reporting a disability were in this income group.

Figure 2. Percent of community-dwelling Medicare beneficiaries ages 65 and older reporting receipt of preventive services, by type of disability, 2013



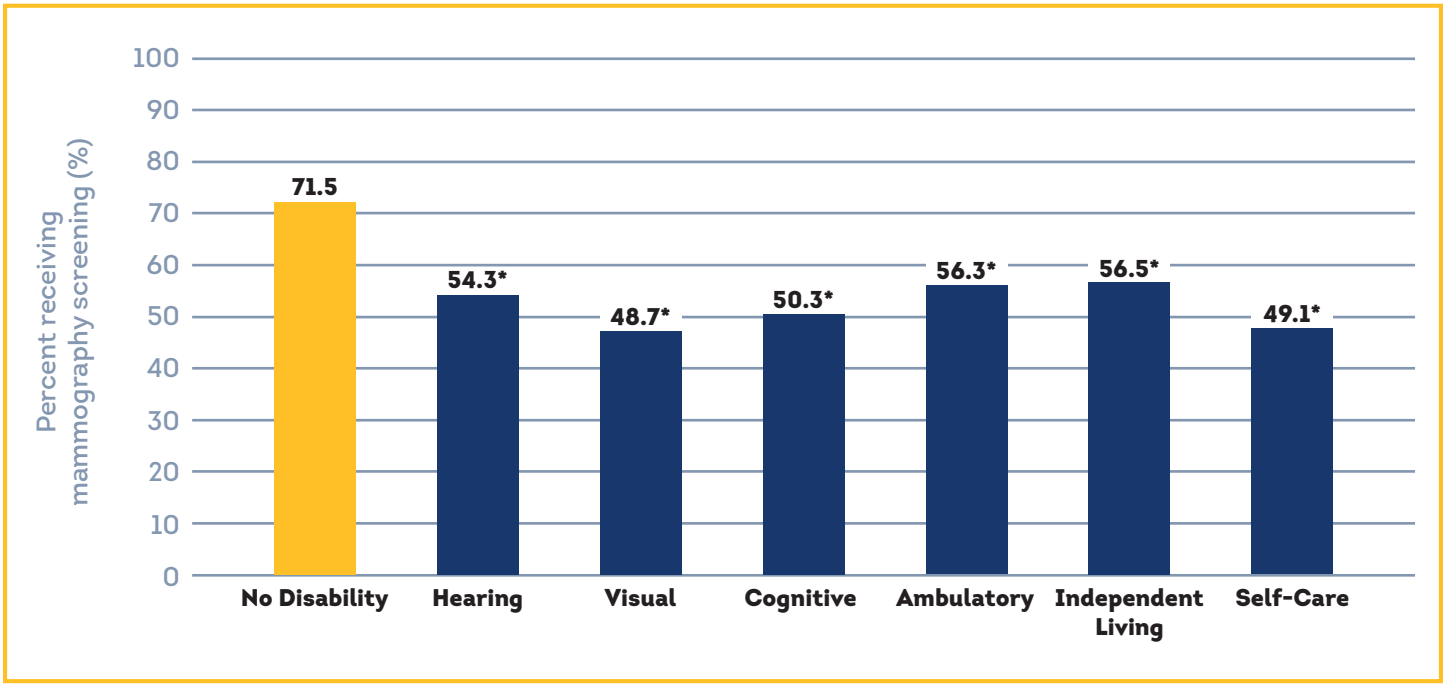
SOURCE: Medicare Current Beneficiary Survey, 2013 Access to Care

NOTE: Survey data collected from community-dwelling beneficiaries ever enrolled in Medicare in 2013. Wald chi-squared tests make separate comparisons between the reference group (no disability) and beneficiaries with each type of disability. For each screening or preventive service, the test contains only beneficiaries reporting no disability and beneficiaries reporting any type of disability. *p < 0.05

Figure 2 shows differences in the percentage of community-dwelling Medicare beneficiaries ages 65 and older reporting six types of preventive services for those reporting one or more disabilities (i.e., "any disability") compared to those reporting no disability.

With the exception of blood pressure screening, the receipt of both routine preventive care and cancer screenings is low, regardless of disability status; however, disparities still exist. Compared to beneficiaries reporting no disabilities, beneficiaries ages 65 and older reporting any disability were less likely to report cancer screenings: females were less likely to report mammography (58.9 percent vs. 71.5 percent) or a Pap test (29.8 percent vs. 38.2 percent), and males were less likely to report a prostate exam (47.8 percent vs. 50.6 percent). In contrast, beneficiaries ages 65 and older reporting any disability were more likely to report routine preventive care, which includes influenza vaccination (76.1 percent vs. 71.8 percent), pneumococcal vaccination (76.8 percent vs. 66.7 percent), and blood pressure reading (97.4 percent vs. 94.5 percent).

Figure 3. Percent of community-dwelling female Medicare beneficiaries ages 65 and older reporting mammography screening in the last four years, by type of disability, 2013



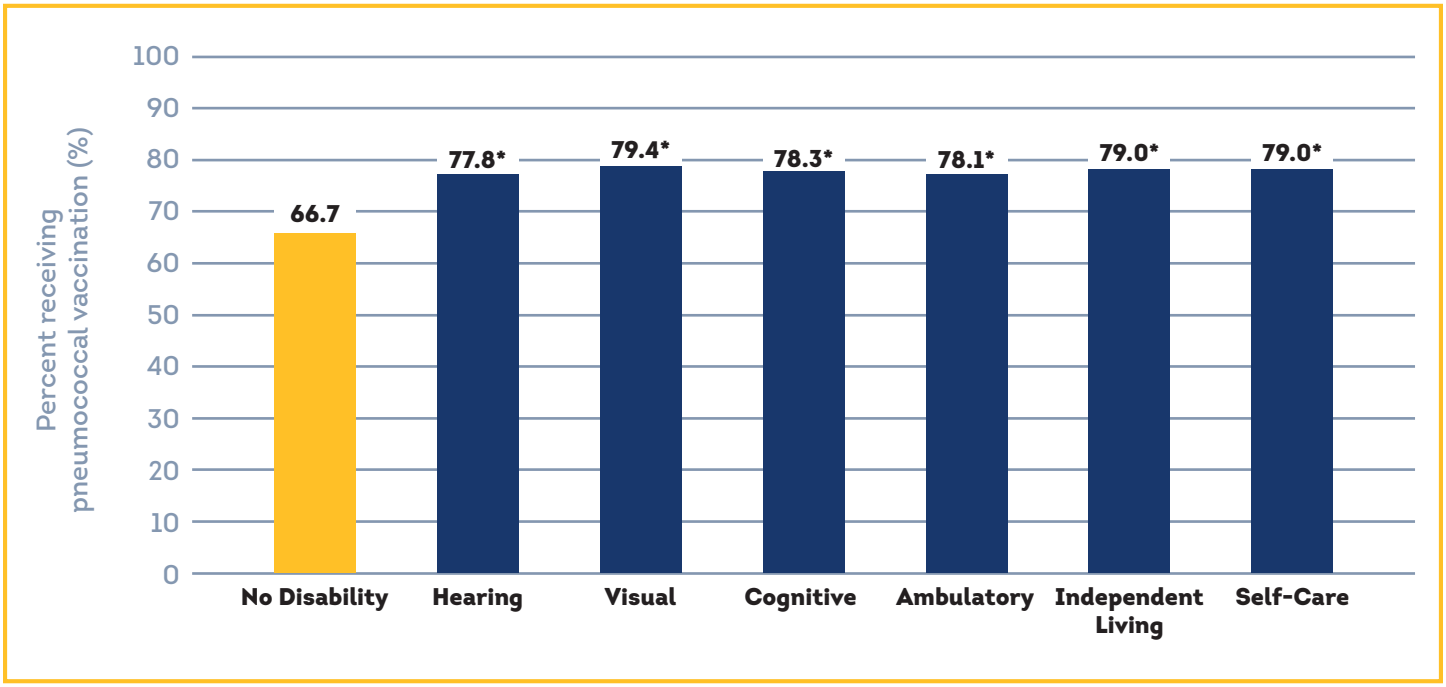
SOURCE: Medicare Current Beneficiary Survey, 2013 Access to Care

NOTE: Survey data collected from all community-dwelling, ever-enrolled Medicare beneficiaries in 2013. Data present self-reported receipt of mammography (females only) in the last four years. Wald chi-squared tests compare receipt of mammography between beneficiaries reporting no disabilities (the reference group) and beneficiaries reporting each type of disability. The population for each test contains only beneficiaries reporting no disability and beneficiaries reporting the respective type of disability. Appendix Table A1 contains the weighted universe of each test. Statistical significance levels are presented as: *p < 0.05.

Appendix Table A3 shows the prevalence of preventive services among beneficiaries reporting each type of disability examined in this highlight compared to beneficiaries reporting no disability. Figure 3 highlights that for female beneficiaries ages 65 and older, those reporting any type of disability had significantly lower mammography screening rates than those reporting no disability. The difference was most pronounced between those reporting no disability versus a visual disability (71.5 percent vs. 48.7 percent) and those reporting no disability versus a self-care disability (71.5 percent vs. 49.1 percent). Similar patterns were found for receipt of Pap tests among female beneficiaries ages 65 and older (Appendix Table A3).

Unlike cancer screenings among female beneficiaries, there were no differences in prostate exam rates between male beneficiaries reporting no disability and male beneficiaries reporting all but one type of disability: beneficiaries reporting no disability were more likely to report a prostate exam than beneficiaries with a self-care disability (50.6 percent vs. 42.9 percent; Appendix Table A3).

Figure 4. Percent of community-dwelling Medicare beneficiaries ages 65 and older reporting having ever received a pneumococcal vaccination, by type of disability, 2013



SOURCE: Medicare Current Beneficiary Survey, 2013 Access to Care

NOTE: Survey data collected from all community-dwelling, ever-enrolled Medicare beneficiaries in 2013. Data present self-reported receipt of a pneumococcal vaccination. Wald chi-squared tests compared receipt of pneumococcal vaccination between beneficiaries reporting no disabilities (the reference) and beneficiaries with each type of disability. The population for each test contains only beneficiaries with no disability and beneficiaries reporting the respective type of disability. Appendix Table A1 contains the weighted universe of each test. Statistical significance levels are presented as: *p < 0.05.

In contrast to the findings for mammography screening and Pap exams, receipt of three routine preventive services – pneumococcal vaccination, influenza vaccinations, and blood pressure screening – was generally higher for those reporting a disability relative to those reporting no disability. Figure 4 compares rates of pneumococcal vaccination receipt by type of disability. Among community-dwelling beneficiaries ages 65 and older, beneficiaries with each type of disability were significantly more likely to receive a pneumococcal vaccination than were those with no reported disability.

Similar to pneumococcal vaccination, blood pressure screening was consistently higher among beneficiaries reporting each type of disability compared to those reporting no disability (Appendix Table A3). Influenza vaccination was also more likely among beneficiaries ages 65 and older reporting hearing, cognitive, ambulatory, or independent living disabilities. However, there was no difference in influenza vaccination rates between those reporting no disability and those reporting either a visual or self-care disability.

Conclusion

Using data from the 2013 MCBS, we found that beneficiaries ages 65 and older reporting disabilities were less likely to receive mammography screenings and Pap tests than those reporting no disability. With regard to routine preventive care, we found that receipt of the pneumococcal vaccination and receipt of blood pressure screening were higher among beneficiaries reporting disabilities. Influenza vaccination was also more likely among beneficiaries reporting certain disabilities.

Taken together, these findings suggest that older Medicare beneficiaries with disabilities may be more likely to receive routine forms of preventive care compared to Medicare beneficiaries with no disability. Beneficiaries with disabilities seem to be less likely to receive more complex forms of preventive care, such as cancer screenings, than those reporting no disability. The findings in this descriptive analysis are important for informing future studies of vulnerable populations.

One barrier to understanding disparities among beneficiaries with disabilities has been a lack of common definitions for different types of disabilities.[15] The definitions of disability employed in this report generally reflect HHS data collection implementation guidance, which specify six categories of disability.[12] This uniform set of definitions will aid disparities research among beneficiaries with disabilities and ensure a common vocabulary with which to consider the individual needs of Medicare beneficiaries with and without disabilities. Encouragingly, early evidence suggests that the elimination of cost-sharing for a range of recommended preventive services including mammography may have increased access to these important preventive services among the Medicare population.[16, 17]

Definitions

Influenza Vaccination

Beneficiary reported having a seasonal flu shot between July 1st, 2012, and the fall 2012 interview date, which occurred on or before December 31st, 2012. In cases where an interview was conducted early in the fall, underreporting of receipt of a flu shot may result.

Independent Living Disability

Disability categories and definitions are informed by HHS guidance on data collection for disability type and research on disability types.[12] The independent living disability definition in the current report includes instrumental activity of daily living (IADL) limitations that are consistent with other studies.[18] Independent living disabilities include: not being able to shop for personal items (such as toilet items or medicines) or having any difficulty shopping for personal items because of a health or physical problem; not being able to prepare one's own meals or having any difficulty preparing one's own meals because of a health or physical problem; not being able to manage money (like keeping track of expenses or paying bills) or having any difficulty managing money due to a health or physical problem; not being able to use the telephone or having any difficulty using the telephone due to a health or physical problem; not being able to do light housework (like washing dishes, straightening up, or light cleaning) or having any difficulty doing light housework due to a health or physical problem; and not being able to do heavy housework (like scrubbing floors or washing windows) or having any difficulty doing heavy housework due to a health or physical problem.

Self-Care Disability

Disability categories and definitions are largely informed by HHS guidance on data collection for disability type and research on disability types.[12] The self-care disability definition in the current report includes activity of daily living (ADL) limitations that are consistent with the DHHS guidelines and with other studies.[19] Self-care disabilities include: not being able to bath/shower or having any difficulty bathing/showering due to a health or physical problem; not being able to dress or having any difficulty dressing due to a health or physical problem; not being able to eat or having any difficulty eating due to a health or physical problem; not being able to get in or out of bed or chairs or having any difficulty getting in or out of bed or chairs due to health or physical problem; and not being able to use the toilet or having any difficulty using the toilet due to a health or physical problem.

Data Sources and Methods

Analysis was conducted using data from the 2013 Medicare Current Beneficiary Survey (MCBS), an in-person, nationally representative, longitudinal survey of Medicare beneficiaries sponsored by CMS. The MCBS is the most comprehensive survey available on the Medicare population and is essential to capturing data not otherwise collected through the operations and administration of the Medicare program. The MCBS is unique among health surveys in that it contains detailed information on types of limitations and disabilities. This analysis uses the Access to Care file, "ever-enrolled" cross-sectional weights, and balanced repeated replication weights for variance estimation. The study sample was restricted to Medicare beneficiaries ages 65 and older residing in the community for the full year of 2013, which yielded an analytic sample size of 11,322. Sub-population/domain analysis was performed on pairwise comparisons of beneficiaries with no disability and beneficiaries with each respective disability type.

We used survey weights to account for the overall selection probability of each sample person and included adjustments for the stratified sampling design, survey nonresponse, and coverage error. We performed bivariate analyses to examine differences in receipt of preventive care across a range of disability categories. Wald chi-square tests were utilized to test associations between variables and to compare rates of receipt of preventive care. Statistical significance was reported at the $p < 0.05$ level. All analyses were performed using SAS 9.4 software.

Limitations

Data from community-dwelling beneficiaries were self-reported or reported by a knowledgeable proxy. As a result, the reported receipt of preventive-care services may differ from estimates constructed from administrative and clinical data. There also may exist differences between the type and number of disabilities reported by a proxy compared to what a beneficiary may otherwise self-report.

In 2013, some preventive-care questions were asked of beneficiaries irrespective of whether those types of care were recommended for the sample person's demographic profile. For example, all female respondents were asked about receipt of Pap test regardless of age. This could be problematic because some respondents may not need a particular preventive service. Likewise, respondents were asked about receipt of an influenza vaccination regardless of the time of the interview within the fall data collection round. This could be problematic because beneficiaries may be more likely to report having had an influenza vaccination if an interview takes place later in the fall.

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Appendix

Table A1: Number of community-dwelling Medicare beneficiaries reporting a disability, by type of disability

Disability Type	Number Reporting Specific Disability (%)	Number with No Reported Disability	Total for Comparison
All Beneficiaries, 65+	42,844,743 (100)		
No Disability, 65+	21,992,773 (51.3)		
Hearing, 65+	3,246,464 (7.6)	21,992,773	25,239,237
Visual, 65+	2,109,137 (4.9)	21,992,773	24,101,910
Cognitive, 65+	2,163,139 (5.0)	21,992,773	24,155,912
Ambulatory, 65+	14,136,630 (33.0)	21,992,773	36,129,403
Independent Living, 65+	14,680,769 (34.3)	21,992,773	36,673,542
Self-Care, 65+	5,817,883 (13.6)	21,992,773	27,810,656

SOURCE: Medicare Current Beneficiary Survey, 2013 Access to Care

NOTE: Survey data collected from all community-dwelling beneficiaries ever enrolled in Medicare in 2013. Disability types are not mutually exclusive.

Table A2: Demographic and socio-economic characteristics, by type of disability, among community-dwelling Medicare beneficiaries ages 65 and older (2013)

Characteristic	No Disabilities % (SE)	Hearing % (SE)	Visual % (SE)	Cognitive % (SE)	Ambulatory % (SE)	Independent Living % (SE)	Self-Care % (SE)
Unweighted	5,225	985	639	736	4,209	4,362	1,786
Weighted	21,920,413	3,209,460	2,063,365	2,156,275	13,859,726	14,301,403	5,649,851
Race							
White	80.4 (0.7)	80.4 (1.3)	68.8* (2.4)	71.2* (1.8)	75.9* (0.9)	72.6* (0.9)	69.8* (1.2)
Black	7.5 (0.3)	3.6* (0.6)	7.3 (1.3)	9.5 (1.1)	8.7 (0.2)	8.9* (0.5)	10.3* (0.7)
Hispanic †	7.4 (0.6)	8.7 (0.9)	13.9* (2.2)	12.4* (1.8)	9.2 (0.7)	11.6* (0.7)	12.8* (1.0)
Gender							
Male	50.4 (0.5)	57.5* (2.3)	37.8* (1.9)	42.1* (2.2)	35.8* (0.7)	33.6* (0.7)	36.0* (1.4)
Female	49.6 (0.5)	42.5* (2.3)	62.2* (1.9)	57.9* (2.2)	64.2* (0.7)	66.4* (0.7)	64.0* (1.4)
Age							
65-74 years	72.0 (0.4)	45.5* (1.8)	43.6* (3.7)	27.5* (1.8)	47.6* (1.0)	46.1* (0.9)	41.9* (1.4)
75-84 years	23.4 (0.4)	33.1* (1.5)	32.9* (1.9)	42.9* (1.7)	34.4* (0.8)	34.5* (0.7)	35.1* (1.2)
85 years or older	4.5 (0.2)	21.4* (1.2)	23.6* (2.0)	29.5* (1.6)	18.0* (0.5)	19.5* (0.6)	23.0* (1.0)
Marital Status							
Married	63.6 (0.7)	55.4* (1.6)	43.4* (2.3)	50.4* (2.1)	47.6* (0.9)	47.8* (0.9)	45.1* (1.3)
Widowed	17.8 (0.6)	29.5* (1.4)	35.4* (2.1)	36.9* (2.0)	33.1* (0.8)	33.4* (0.8)	35.0* (1.3)
Divorced or Separated	14.1 (0.6)	11.9 (1.0)	17.5 (2.2)	9.8* (1.3)	15.6 (0.6)	14.6 (0.7)	16.2 (1.0)
Never Married	4.5 (0.5)	3.2 (0.7)	3.6 (0.8)	2.8 (0.6)	3.7 (0.4)	4.2 (0.4)	3.7 (0.6)
Education							
Less than High School	11.9 (0.5)	26.9* (1.5)	32.3* (2.6)	31.2* (1.7)	26.9* (0.8)	26.1* (0.8)	30.1* (1.2)
High School Graduate, No Bachelor's	57.9 (1.0)	55.3 (1.8)	51.7* (2.7)	50.6* (1.8)	56.0 (0.9)	55.0* (0.8)	53.7* (1.2)
Bachelor's or Higher	30.2 (1.0)	17.8* (1.5)	16.0* (1.9)	18.2* (1.5)	17.0* (0.7)	19.0* (0.7)	16.2* (1.0)
Income							
Less than $25,000	26.2 (0.8)	53.7* (2.0)	41.2* (2.5)	52.2* (2.1)	51.9* (1.1)	52.1* (1.0)	57.7* (1.3)
$25,000 or Higher	73.8 (0.8)	46.3* (2.0)	58.8* (2.5)	47.8* (2.1)	48.1* (1.1)	47.9* (1.0)	42.3* (1.3)
Insurance Coverage							
Private Insurance	57.5 (0.8)	46.3* (1.9)	39.4* (2.7)	41.6* (1.8)	46.6* (0.9)	46.0* (0.8)	39.8* (1.4)
Dually-Eligible for Medicaid	6.0 (0.4)	17.3* (1.4)	26.2* (2.4)	25.5* (1.8)	20.3* (0.8)	21.4* (0.8)	28.2* (1.3)

SOURCE: Medicare Current Beneficiary Survey, 2013 Access to Care

†The Hispanic category includes all respondents indicating a Hispanic identity, regardless of what race they selected. Survey responses included additional racial categories, including Asian, American Indian or Alaska Native, and Native Hawaiian or Other Pacific Islander. These are not displayed due to small sample sizes.

Note: Survey data collected from all community-dwelling beneficiaries ever enrolled in Medicare in 2013. Disability types are not mutually exclusive. Wald chi-squared tests compare distribution of variables between the reference group (no disability) and beneficiaries with each disability type. The population for each test contains only beneficiaries with no disability and beneficiaries reporting the respective type of disability. Statistical significance levels are presented as: *p < 0.05. Standard errors (SE) are presented in parentheses.

Table A3: Self-Reported receipt of preventive care, by type of disability among community-dwelling Medicare beneficiaries ages 65 and older (2013)

Preventive Care Service	No Disabilities % (SE)	Hearing % (SE)	Visual % (SE)	Cognitive % (SE)	Ambulatory % (SE)	Independent Living % (SE)	Self-Care % (SE)
Mammography Screening†							
65 or older	71.5 (1.1)	54.3* (2.8)	48.7* (3.0)	50.3* (2.8)	56.3* (1.2)	56.5* (1.1)	49.1* (1.6)
Pap Test†							
65 or older	38.2 (1.3)	29.5* (2.8)	22.3* (2.5)	27.0* (2.7)	28.2* (1.0)	28.6* (1.0)	26.7* (1.4)
Prostate Exam‡							
65 or older	50.6 (1.1)	46.4 (2.4)	44.4 (3.4)	46.3 (3.1)	46.9 (1.4)	47.1 (1.6)	42.9* (2.1)
Influenza Vaccination							
65 or older	71.8 (0.9)	78.1* (1.8)	76.9 (2.2)	80.8* (1.5)	76.2* (0.8)	77.2* (0.8)	75.6 (1.2)
Pneumococcal Vaccination							
65 or older	66.7 (0.7)	77.8* (1.6)	79.4* (2.2)	78.3* (1.9)	78.1* (0.9)	79.0* (0.7)	79.0* (1.2)
Blood Pressure Screening							
65 or older	94.5 (0.4)	96.3 (0.7)	97.6* (0.7)	99.0* (0.3)	98.4* (0.2)	98.2* (0.3)	98.7* (0.3)

SOURCE: Medicare Current Beneficiary Survey, 2013 Access to Care

†Female beneficiaries only
‡Male beneficiaries only

NOTE: Survey data collected from all community-dwelling beneficiaries ever enrolled in Medicare in 2013. Disability types are not mutually exclusive. Chi-squared tests make separate comparisons between the reference group (no disability) and beneficiaries with each disability type. The population for each test contains only beneficiaries with no disability and beneficiaries reporting the respective type of disability. Statistical significance levels are presented as: *p < 0.05. Standard errors (SE) are presented in parentheses